B. Loop Costs

The Order's determinations concerning loop costs are also flawed. While the Order produces a statewide average rate for 2-wire basic loops that is marginally higher than the previous Virginia statewide average rate, the new loop rate is still below the New York benchmark. The Order arrives at this below-cost loop rate through its decision to rely on a fundamentally flawed model and the adoption of incorrect inputs. Moreover, the Order slashes the current, TELRIC-compliant high capacity loop rates by one-half on the basis of calculations having nothing to do with cost.

1. The Order's Determination of Loop Costs Is Flawed Generally.

The Order's use of a modified version of the Commission's universal service Synthesis Model is unlawful. The Commission has made clear that this model should not be used as a basis to set rates. While the Order asserts that "the Commission never found that the underlying model platform [of the universal service model] is inappropriate for use in determining UNE costs," Order ¶ 171, the Commission has in fact said so repeatedly. It explicitly has found that "the USF cost model should not be relied upon to set rates for UNEs." The Commission further observed that it "has never used the [universal service] cost model to determine rates for a particular element, nor was it designed to perform such a task." As the Commission has noted:

Memorandum Opinion and Order, Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma, 16 FCC Rcd 6237, 6277 ¶ 84 (2001) ("Kansas/Oklahoma 271 Order").

Maine 271 Order at 11679 ¶ 32; Memorandum Opinion and Order, Application by Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), and Verizon Global Networks Inc., for Authorization to Provide In-Region, InterLATA Services in Massachusetts, 16 FCC Rcd 8988, 9002-03 ¶ 28 n.107 (2001) ("Massachusetts 271 Order") ("[T]he Commission has generally cautioned . . . that the Synthesis Model was developed for the purpose of

[There is a] critical difference between using the Synthesis Model (or any other model) to determine absolute UNE costs, and using it for the limited purpose of comparing relative cost differences between the states. In section 271 proceedings, the Commission uses the Synthesis Model only for the latter purpose; we have not used the model to compare UNE rates set by a state commission to costs produced by the model. Indeed, the Commission has repeatedly cautioned against using the Synthesis Model to set rates. 42/

The Commission just recently reiterated this point in the TELRIC NPRM, explaining that it did not intend for the universal service model "to provide any systematic guidance to states in the area of TELRIC rate-setting." TELRIC NPRM ¶ 46 (emphasis added).

The inadequacy of AT&T/WorldCom's version of the Synthesis Model is apparent in numerous respects. For example, while the *Order* acknowledges that digital loop carrier systems are a "key loop investment component," in the modified universal service Synthesis Model,

Order ¶ 303 (emphasis added), changing the level of IDLC has no impact whatsoever on loop costs. That obviously makes no sense. The CLEC model also, as discussed below, is simply

determining high cost support and may not be appropriate for other purposes."); WorldCom v. FCC, 308 F.3d 1, 9 (D.C. Cir. 2002) (upholding FCC's rejection of WorldCom's claim that rates are too high because they differ from the "data collected by the Commission for the purposes of implementing its duties as to the Universal Services Fund — information that the FCC insists is unreliable for the determination of UNE rates"); Ninth Report and Order and Eighteenth Order on Reconsideration, Federal-State Joint Board on Universal Service, 14 FCC Rcd 20432, 20455 ¶ 41 (1999) ("[T]he federal cost model was developed for the purpose of determining federal universal service support, and . . . it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements."); Tenth Report and Order, Federal-State Joint Board on Universal Service, 14 FCC Rcd 20156, 20172 ¶ 32 (1999) ("Inputs Order") (same).

Memorandum Opinion and Order, Application by Verizon Maryland Inc., Verizon Washington, D.C. Inc., Verizon West Virginia Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services, Inc., for Authorization to Provide In-Region, InterLATA Services in Maryland, Washington, D.C., and West Virginia, 18 FCC Rcd 5212, 5265-66 ¶ 89 (2003) ("Maryland/Washington, D.C./West Virginia 271 Order").

incapable of modeling the costs of high capacity loops, a flaw that drives AT&T/WorldCom and the *Order* to set high capacity loop rates based on "ratios" that are entirely unrelated to costs.

And, as Verizon VA demonstrated, these are but a few of the CLEC model's numerous flaws, which together render it wholly incapable of producing accurate UNE loop costs. Indeed, even Commission Staff has now concluded that, when investment costs are falling over time, the costs generated by the universal service Synthesis Model are substantially understated. *See* OSP Working Paper at 1-2, 43.

The *Order* compounds the inadequacy of its model choice by relying on inputs that result in rates that are below any rational measure of costs. To take just one example, the *Order* adopts entirely hypothetical fill factors that are based on little more than the opinions of AT&T/WorldCom's subject matter experts, while ignoring Verizon VA's proposed fill factors based on efficient engineering guidelines and the actual utilization levels it has experienced in operating a real-world network subject to Virginia-specific service guidelines. The *Order*'s approach leads it to adopt fill factors as high as 100% for fiber feeder, taking the absurd position that absolutely no spare is necessary to account for churn, growth, repair and maintenance, or administrative uses.

The Commission should reject the *Order*'s attempt to keep basic loop rates at below-cost levels and, in the case of high capacity loops, to slash the rates by approximately one-half.

See generally Verizon Virginia Rebuttal Testimony of Francis J. Murphy (Aug. 27, 2001) ("VZ-VA Ex. 109"); Verizon Virginia Rebuttal Testimony of Dr. Timothy Tardiff (Aug. 27, 2001) ("VZ-VA Ex. 108"); Verizon Virginia Supplemental Rebuttal Testimony of Francis J. Murphy (Nov. 16, 2001); Verizon Virginia Supplemental Rebuttal Testimony of Timothy J. Tardiff (Nov. 16, 2001) (all cataloging flaws of the CLEC model).

2. The *Order* Arbitrarily Sets DS3 and DS1 Loop Rates Using Calculations That Are Not Based on Cost.

The Order's methodology for setting DS3 and DS1 loop rates is wrong for two reasons. First, it is not based on the costs of providing high capacity loops at all and does not even purport to be. Second, it starts with a modified version of the universal service Synthesis Model, which all parties recognize is particularly incapable of measuring high capacity loop rates. The Order reduces Verizon VA's DS3 and DS1 loop rates by 33% to 54% from the rates that the Commission found to comply with TELRIC less than one year ago. These new rates are among the lowest in any of Verizon's jurisdictions. Because high capacity loops are a component of EELS, these rates, in combination with the new EEL conversion rules adopted by the Commission in the Triennial Review Order, will further encourage CLECs to convert special access services to EELs. As the Commission has explained, such dislocation will have "severe consequences" for the special access market. Supplemental Order Clarification, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, 15 FCC Rcd 9587, 9598 ¶ 18 (2000). In particular, the Commission concluded that, while special access is a "mature source of competition," conversion of special access service to below-cost EEL prices will "undercut the market position of many facilities-based competitive access providers." Id.

The Order does not even try to measure the actual costs of providing DS1 and DS3 loops in calculating the rates. Instead, it adopts rates out of thin air by applying ratios proposed by AT&T/WorldCom to the 2-wire loop rates produced by their modified version of the universal service model. These "ratios" do not account for any actual cost relationships between 2-wire and high capacity loop rates. Indeed, the Order does not even purport to understand the basis for the ratios, finding them "lack[ing] [in] thoroughness and clarity," Order ¶ 341, and

acknowledging that it was "unable... to identify the starting point for the AT&T/WorldCom calculations." *Id.* ¶ 341 & n.888.

In fact, there is no fixed cost relationship among 2-wire and high capacity loops. Two-wire loops are provided to residential and business customers at virtually every point in the network over facilities with large amounts of copper cable, particularly in the distribution portion of the loop. DS1 loops, in contrast, frequently are provided to business customers in urban areas, where the loops tend to be located in buildings served directly by fiber-fed DLC systems, see Tr. at 4398-99 (Murphy); in such areas, the DS1 loops accordingly have a much higher proportion of electronics and fiber than 2-wire loops (about 24:1), and the loop costs would vary accordingly. See VZ-VA Ex. 107 at 89. But the costs of DS1 loops do not always reflect that high proportion of DLC costs: in suburban and rural areas, for example, there is less demand for DS1 services, and DS1 loops thus tend to be provided using at least some copper distribution facilities. In such cases, DS1 loops use twice the copper capacity of a 2-wire basic loop, see generally Inputs Order at 20202-03 ¶ 100, and thus in rural areas, the ratio of costs between DS1s and DS0s will be significantly lower than the ratio in urban areas. Because of these differences, the ratio between DS0 and DS1 rates clearly should be different in different density cells. Yet the Order adopts only one ratio for all density zones.

The relationship between DS0 and DS3 loops is even less consistent. DS3 loops are provided using the same type of fiber systems used in the IOF transport network and cannot be provided using the types of copper facilities or DLC systems used to provide basic 2-wire loops and many DS1 services. See VZ-VA Ex. 109 at 44; see also Tr. at 4519 (Gansert). Indeed, the specialized fiber electronics used to provide DS3 services account for more than 80% of the

costs of providing DS3 services. ^{49/} In comparison, in the CLECs' model, the electronics used to provide basic 2-wire loops account for less than one-third of the costs of the basic 2-wire loop. ^{50/} Further, DS3 loops are provided almost exclusively to large businesses with large volumes of voice or data traffic, whose locations typically are not distributed throughout Verizon VA's service area in the same way as customers of basic 2-wire loops (or even DS1 loops). *See generally* VZ-VA Ex. 107 at 164; *id.* at 166. The costs of a DS3 loop provided in Virginia thus would not vary in a manner that bears any relevance to average 2-wire loop costs. Accordingly, there is no reason to believe that there is *any* predictable relationship among the costs of providing basic 2-wire and DS3 loops.

Not surprisingly, then, a review of the basic 2-wire, DS1, and DS3 loop rates in Verizon's largest states where it has received section 271 authorizations does not reflect any set cost relationship among these three types of loops. First, the ratios of DS3 to DS1 loop rates range from 5.9 in Pennsylvania to 10.8 in Maryland. See Attachment A (chart of publicly filed UNE rates and corresponding ratios). Second, the ratio of DS1 loop rates to basic 2-wire loop rates varies among density zones and states, sometimes dramatically. For example, in Maryland, that ratio ranges from a low of 4.1 in rate group B1 to a high of 8.1 in rate group A2; in New York, the ratio ranges from 8.3 in density zone 2 to 10.8 in density zone 1a. See id. The Order, in contrast, assumes a single ratio for all density zones, which makes no sense.

VZ-VA Ex. 205, CD #2, "VA Excel & Word Studies" folder, "VA_DS3_Loop" subfolder.

Appendix F of the Bureau's *Order* shows that, of the \$14.43 statewide average loop rate, \$4.70 (less than 33%) is due to concentration equipment, which includes DLC electronics and passive Serving Area Interfaces.

The Order's approach to setting high capacity loop rates is particularly inappropriate because it begins with rates produced by the modified version of the universal service Synthesis Model. As discussed above, the Commission has made clear that this model should not be used to set UNE rates in the first place. That is particularly true for high capacity loops. Indeed, all parties agree, and the Order itself acknowledges, that this model simply cannot produce high capacity loop rates. See, e.g., Tr. at 4485 (AT&T/WorldCom witness Pitkin) ("There is no question that [DS1 and DS3] services are not explicitly modeled in the network."); Order ¶ 332.

In all other cases where the CLEC model cannot produce rates, the *Order* concedes that the appropriate response was to rely on Verizon's studies. *See Order* ¶ 554 (NID, subloops, entrance facilities, and others). There was no valid reason not to do the same here. ^{51/} Verizon VA submitted models that produced cost-based rates for high capacity loops. In fact, the DS3 rates proposed by Verizon VA are based on a model the *Order* specifically finds to comply with TELRIC and that the *Order* actually adopts for purposes of setting transport rates. ^{52/} *See Order* ¶ 503. And the loop cost model Verizon VA used to set DS1 rates has been used by Verizon to set loop rates that the Commission found TELRIC-compliant in the 271 proceedings for New Jersey, Delaware, Virginia, and Pennsylvania.

While the Order suggests that it could not rely on Verizon's loop or transport models because both of these were "fundamentally different" from the modified universal service Synthesis Model, Order ¶ 343, that rationale is unavailing, given that, for example, the Order adopts Verizon VA's loop model for subloop costs even while relying on the modified Synthesis Model for 2-wire loop costs. Id. ¶ 554.

DS3 loops are provided using the same type of high capacity fiber optic systems used in the transport network and cannot be provided over the copper facilities or digital loop carrier systems used to provide basic 2-wire loops. See VZ-VA Ex. 109 at 44; see also Tr. at 4519 (Gansert).

3. The Order Wrongly Adopts AT&T/WorldCom's Distribution "Fill Factor."

The Order adopts a distribution fill factor that is too high and therefore substantially understates Verizon VA's forward-looking costs by modeling a network with insufficient levels of spare capacity. That fill factor is based on no evidence whatsoever and is contradicted by the only empirical data on the record. Moreover, the sole reason the Order cites for using it — that the same distribution fill was used in the universal service Synthesis Model — is both materially wrong as a factual matter and contrary to clear Commission precedent providing that the universal service inputs are not appropriate for UNE costing purposes.

The *Order*'s choice of fill factor was contrary to the only record evidence concerning proper, efficient distribution fill. AT&T/WorldCom offered no evidence in support of their proposed distribution fill factors other than the unsubstantiated opinion of their engineering witness. For example, AT&T/WorldCom produced no evidence that their fill inputs produce cable sizes that correspond to cable sizing guidelines in use by *any* local exchange carrier, much less an incumbent local exchange carrier that must meet the service quality standards that are imposed on Verizon VA. Nor did AT&T/WorldCom present any evidence validating the results of their proposed target fill factors in the modified universal service model. AT&T's engineering witness even acknowledged that he was unaware of *any* local exchange network that operates at the levels of AT&T/WorldCom's proposed fills. Tr. at 4513-15.

Surrebuttal Testimony of Joseph P. Riolo on Behalf of AT&T and WorldCom, Inc. at 22-23 (Sept. 21, 2001) ("AT&T/WCom Ex. 18").

The former GTE engineering guidelines cited by the Bureau, see Order ¶ 254, apply to a service area that is significantly more rural than Verizon VA's service area and would produce much higher operating expenses in Verizon VA's service area. See VZ-VA Reply Br. at 80 n.69.

Furthermore, the *Order*'s reliance on the distribution fill factor adopted by the Commission for universal service purposes in its *Inputs Order* was inappropriate. When the Commission adopted the inputs for the Synthesis Model, it specifically warned that it "ha[d] not considered what type of input values, company-specific or nationwide, nor what specific input values, would be appropriate for any other purposes" and further noted that "it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements." Even the *Order* acknowledges this much. *See Order* ¶ 51. The Commission reiterated this point in the *TELRIC NPRM*, explaining that "decisions on particular inputs were made *solely* for the purpose of calculating universal service support and may not be appropriate for the calculation of UNE prices." *TELRIC NPRM* ¶ 46 (emphasis added). Thus, the fact that the Synthesis Model uses a similar distribution fill provides no justification for the *Order*'s determination.

The only real-world evidence presented to the Bureau concerning distribution utilization shows the unreasonableness of AT&T/WorldCom's proposed fill factors. Verizon VA showed that its current outside plant engineering practices and guidelines call for the placement of two to five distribution pairs per residential living unit. VZ-VA Ex. 122, Att. K at 35. Verizon VA explained that these engineering guidelines are "[b]ased on decades of operating experience" about the most efficient way to accommodate the need to provide second lines to customers without knowing in advance where those lines will have to be provided. *Id.* at 119. Verizon VA also presented evidence showing that the actual utilization of distribution cables in Verizon VA's

Inputs Order at 20172 ¶ 32; Ninth Report and Order and Eighteenth Order on Reconsideration, Federal-State Joint Board on Universal Service, 14 FCC Rcd 20432, 20455-56 ¶ 41 (1999) ("[T]he federal cost model was developed for the purpose of determining federal universal service support, and that it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements.").

network, which resulted from the application of the engineering guidelines, produced a distribution utilization level that was substantially lower than the level modeled by the modified universal service Synthesis Model. See VZ-VA Ex. 107 at 111-12; VZ-VA Ex. 122 at 124.

The Order should have relied on this evidence in place of the unsubstantiated opinions proffered by AT&T/WorldCom. That would have been consistent with the Bureau's decision to look to Verizon VA's network to determine the actual number of nodes per ring in a forward-looking transport network: in that context, the Order determines the actual network data to be "the only objective data before us on this issue" and thus preferable to expert opinions. Order ¶ 515.

The Order's only reason for not using "objective data" here is its suggestion that Verizon's engineering practices are based on ultimate demand that is too speculative to forecast. Id. ¶ 254. But the record clearly showed that Verizon VA's distribution cable sizing practices are driven by the need to serve today's demand as efficiently as possible. Demand for second lines is constantly shifting and inherently unpredictable, and Verizon VA needs to be able to serve that changing demand without having repeatedly to dig up the streets to place new cable. See, e.g., VZ-VA Ex. 122 at 119-22. The best evidence that Verizon VA's distribution fill factors are not based on some speculative forecast is that they have remained stable over time. In other words, while demand may grow in particular locations and decrease in others, the average fill over the network has not varied. See, e.g., Tr. at 2991-92, 4212-13 (Tardiff). If, as the Order asserts, Verizon VA's cable sizing practices were based on "speculative" overall growth forecasts, then the actual distribution utilization rates would vary depending on whether that speculation had turned out to be true or not. Thus, the distribution fill in Verizon VA's network

is a function of having to satisfy current needs — including shifts in demand and other changes — efficiently.

The Order accordingly should have used a target distribution fill factor for the modified universal service model that produced an achieved distribution utilization rate that approximated the actual distribution utilization rate in Verizon VA's network. The Order suggests that its baseball arbitration rules preclude this result, because Verizon VA did not specifically propose this adjustment for the modified universal service model. See Order § 256. Even aside from the fact that the Order departs widely from these rules when doing so would depress rates, the Order's rationale is simply wrong. In fact, Verizon VA submitted restated versions of that model that included an alternative distribution fill factor. See Verizon VA Modified Synthesis Model Runs (Dec. 12, 2001) ("VZ-VA Ex. 204"). And Verizon's restated version was just a basic mathematical adjustment — a change that would have been far less involved than, for example, AT&T/WorldCom's whole new calculation of missing NRCs, discussed below.

C. The *Order* Errs in Requiring Verizon VA To Establish Rates Which Exclude DCS and Multiplexing from Certain Dedicated Transport Services.

The Order's decision to require Verizon VA to provide rates for dedicated transport services that include neither digital cross-connects ("DCS") nor multiplexing services, see Order ¶ 510, is flatly inconsistent with the fact that transport necessarily includes those functions, and those rates should be eliminated. Indeed, CLECs will no doubt (erroneously) claim that this decision permits them to order a bare-bones "transport" option and to receive multiplexing functionality for free. Such a result would create a new subsidy for CLECs who use EELs, which, when combined with the Commission's new rules concerning the availability of EELs, would encourage greater conversion of special access services to EELs and do even further harm to facilities-based competition in the special access market.

The Order requires Verizon VA to "establish rates for dedicated transport (at each capacity level (e.g., DS-1, DS-3, STS-1, Ocn)) in the following manner: (1) including DCS and multiplexing; (2) including DCS only; (3) including multiplexing only; and (4) including neither DCS nor multiplexing." Id. ¶ 511 (emphasis added). But Verizon VA cannot provide transport without DCS or multiplexing at the CLEC's option. As a result, CLECs may interpret the decision as allowing them to pay for the least expensive, barebones service option even while taking advantage of the full array of multiplexing services that are included in the more expensive option and that must be provided when Verizon VA offers transport. Such a decision would create a subsidy for CLECs using IOF transport, be inconsistent with the realities of the network, and could not be squared with the Order's determination in the Non-Cost Order that multiplexing is an essential functionality of dedicated transport. Non-Cost Order at 27281-82 ¶ 496.

As the record shows, "[i]nteroffice transport elements (DS1, DS3, etc.) must pass through one or more levels of multiplexing to be carried by the backbone transport network." VZ-VA Ex. 107 at 216. Although the *Order* suggests that the decision in the non-cost portion of the case supports its finding that transport can be offered without multiplexing, just the opposite is true. The *Non-Cost Order* recognizes that *multiplexing* is not a UNE separate and apart from transport and ruled that Verizon VA "must provide multiplexing 'together' with dedicated transport."

Non-Cost Order at 27283 ¶ 499. This does not support the converse theory that dedicated transport can be provided without multiplexing: to the contrary, the Non-Cost Order concludes that "in order to provide the channelizing functionality of dedicated transport, Verizon must provide multiplexing." Id. (emphasis added). And it determines that multiplexing is an "inherent part of dedicated transport." Id. at 27281-82 ¶ 496 & n.1658.

The required multiplexing can be performed either using a standalone multiplexer or by DCS systems, which have multiplexing capabilities. A rate for "transport" that included neither a standalone multiplexer nor DCS would, at least in the case of DS1 service, cover nothing but the bare cost of the fiber. But a fiber loop is not transport: transport involves multiplexing fiber between the CLEC point of interconnection and the IOF SONET rings so that high capacity traffic can be sent across the transport network. The concept of transport without any multiplexing functionalities thus is meaningless.

The result of the *Order* is that CLECs will undoubtedly claim that they can order the cheaper, bare bones "transport" UNE and insist that it must be capable of offering transport functionalities. Yet to provision transport at all, Verizon VA would have to use multiplexing, whether or not the CLEC has specifically "ordered" it. As a result, CLECs would obtain full-fledged transport for the cost of nothing more than the SONET rings contained in the transport network. This would be a pure subsidy for the CLECs. The only appropriate solution is to permit Verizon VA to charge for whatever multiplexing it actually provides when a CLEC orders dedicated transport.

Moreover, any suggestion that a CLEC may select whether it wants transport with DCS or transport with standalone multiplexing also must be rejected. It is not up to a CLEC to make that choice, because whether DCS or standalone multiplexing can be used in a particular location is a set function of network design. DCS systems have automated capabilities that eliminate the need for the manual cross-connection between higher-capacity signals, such as DS3s, and lower-capacity signals, such as DS1s, that is required when a standalone multiplexer is used. Efficient network design calls for DCS in central offices where there is high demand. In central offices where Verizon VA has employed DCS, there is no way for Verizon VA to provide DS1 transport

without using the DCS, because Verizon does not install redundant multiplexers and manual cross-connection systems in addition to the wideband DCS systems. Likewise, if Verizon VA has not installed a wideband DCS system at a particular central office, it cannot provide DS1 transport through a DCS system at that central office. See VA UNE 10_02_01 Revised w Mux.xls.

Accordingly, to eliminate any ambiguity, the Commission should eliminate the option for CLECs to order "transport" with neither DCS nor multiplexing. Furthermore, the Commission should make clear that a CLEC must pay for whatever form of multiplexing or DCS is provided in the location the CLEC is taking service.

II. GLOBAL INPUTS

A. The Order's Methodology for Calculating the Cost of Capital Is Flawed.

While the *Order* adopts the 12.95% cost of capital Verizon VA proposed in its initial studies, *Order* ¶ 104, its decision still injures Verizon VA and understates costs. As an initial matter, even the *Order* finds that the cost of capital should be 13.068%, but adopts Verizon VA's lower number based on its "baseball arbitration" rules. *Id.* This decision is itself arbitrary since the *Order* departs repeatedly from those "rules" in order to adopt inputs or assumptions that reduce costs.

Second, the *Order*'s choice of the "Capital Asset Pricing Model (CAPM)" cost of capital model is unsupported. During the proceeding and hearings, the parties focused on competing versions of the so-called DCF model for estimating the cost of capital. Although AT&T/WorldCom initially introduced the CAPM model, it was clearly their secondary choice and so the record is underdeveloped on this model. However, it is clear that the CAPM model is uniquely sensitive to changes in interest rates. *See id.* ¶ 64 n.203. As a result, use of this model will create substantial fluctuations in the resulting cost of capital, and the particular cost of